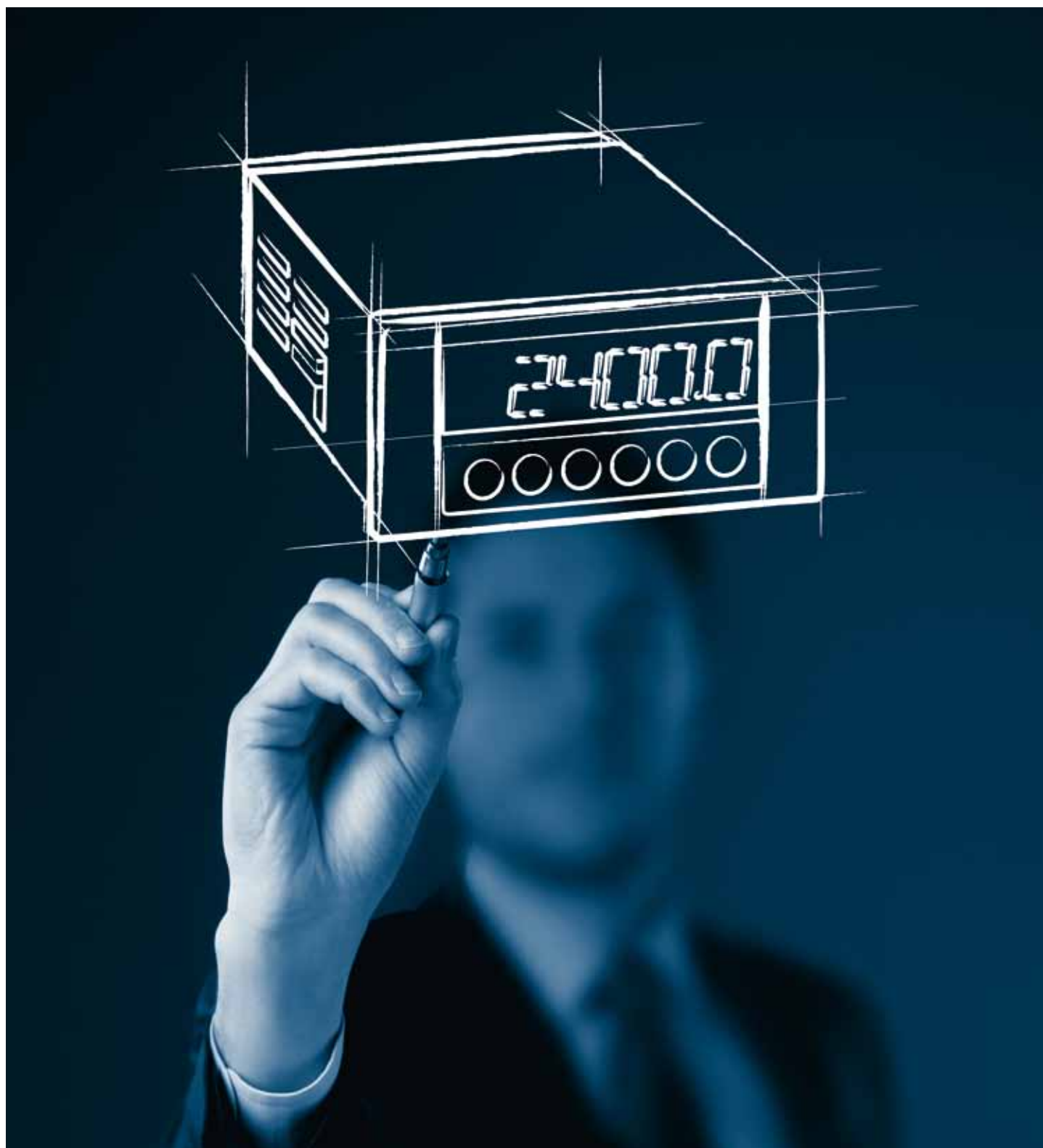


INSTRUMENTATION INDICATORS ALARM UNITS TIMERS AND COUNTERS

GEFRAN





THE ACKNOWLEDGED INTERNATIONAL LEADER

Thanks to forty years of experience, Gefran is the world leader in the design and production of solutions for **measuring, controlling, and driving industrial production processes**. We have 14 branches in 12 countries and a network of over 80 worldwide distributors.



QUALITY AND TECHNOLOGY

Gefran indicators are designed to directly **acquire multiple physical variables** such as temperature, pressure, displacement, force/weight, humidity, and many others via normalised signals.



SOFTWARE GF_eXpress

Configuration kit for Gefran instruments by means of PC (Windows environment). Lets you read or write all of the parameters of a single instrument via serial connection.

- > A single software for all models
- > Easy configuration
- > Copy/paste, save recipe, trend functions
- > Rapid configuration of instruments
- > Saving and management of parameter recipes
- > On-line trend and saving of historical data
- > Recovery of factory settings
- > Custom linearization
- > On-line user manual



PLASTICS



MATERIAL TESTS



ONE STOP SHOP

Gefran offers complete display solutions for industry, providing its own sensors and ensuring maximum component compatibility and integration.

The numerous models in the catalogue offer different acquisition speeds, read resolutions, and specific functions assignable to auxiliary inputs and to alarm outputs.



SERVICES

PRE AND POST SALES

A team of Gefran experts works with the customer to select the ideal product for its application and to help install and configure devices (customercare@gefran.com).

TRAINING

Gefran offers a wide range of courses at different levels for the technical-commercial study of the Gefran product range as well as specific courses on demand.

MARKETS



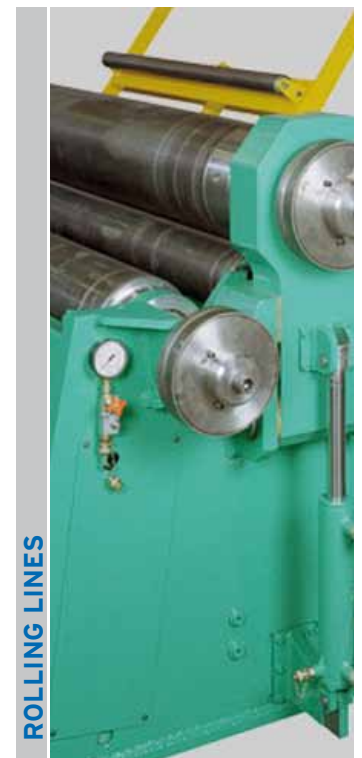
WEIGHING SYSTEMS



TEST BENCHES



MACHINES FOR WOOD AND MARBLE



ROLLING LINES



ALL GEFRAN INDICATORS FEATURE

INPUTS

Configurable universal analogue inputs for main variables and auxiliary analogue/digital inputs for additional functions.

KEYBOARD

Keyboard for rapid setting and diagnostics.

LEDS

LEDS for constant display of main instrument states.

DISPLAY

Clear and immediate display of main variables.

IP65

Elevated front panel protection without accessories.

OUTPUTS

Various types of outputs for alarm management, input retransmission.

FLEXIBILITY

Connection to process via various types of sensors.

SHARED SOFTWARE

All models use the same software.

READY TO USE

Pre-installed software for zero start-up time.

EASY TO USE

Immediate and intuitive parameter settings.

UNIVERSAL MODELS

Gefran indicators and alarm units feature flexibility, simplicity, and compactness.

Available in versions measuring 72x36...48x48 and 48x96, they indicate variables such as temperature, displacement, and force.



HIGH PERFORMANCE MODELS

Gefran's 2400 series of indicators provide speed and precision, ensuring the measurement and setpoints of pressures (direct and differential), displacements, forces, temperatures, and process variables read by amplified sensors.

Calculation capacity












- Ability to compare input variables, engineer measurements, derive flow values.
- Use of results of math functions such as value of process/ alarm limit/retransmission output.

Double channel

- Two main universal analogue inputs for two simultaneous acquisitions with a single instrument.
- Direct feeding of up to 6 load cells.

Easy calibration

- Calibration of input by copying sensor plate data.
- Standard calibration with specific menu

		72X36	48X48 (1/16 DIN)	48X96 (1/8 DIN)	96X96 (1/4 DIN)	
MULTICHANNEL MODELS				8 Channels °C/°F bar 0...10V 4...20mA 2308 	2 Channels °C/°F bar 0...10V 4...20mA 40TB 	Plastics, Plants
	High speed High resolution			4 Channels 2400 	°C/°F Kg bar 0...10V 4...20mA potentiometers	Climatic chambers, Dosers, Pressure, Test benches, Laboratories
UNIVERSAL MODELS	RPM Frequency			40F96 	Hz RPM	Plastics, Various
	V/Aac		4A48 40A48 	4A96 - 40A96 	V/Aac	Plastics, Various
	Pressure Force Position		4B48 40B48 	4B96 - 40B96 	Kg bar Potentiometers Magnetostrictives	Plastics, Packaging
	Temperature Linear Potentiometers	40T72 	4T48 40T48 	4T96 - 40T96 	°C/°F 0...10V 4...20mA Potentiometers	Plastics, Packaging, Wood, Metal, Ovens

LEGEND:



PC configuration



Modbus TCP/RTU

INDICATORS



		4T 72 Indicator	4T 48/4T96 Indicator
	Front panel dimensions	72 x 36mm	48 x 48mm (1/16 DIN) / 96 x 48mm (1/8DIN)
Inputs	Number of analog inputs	1	
	Sampling time	120 - 60 - 30 - 15msec	
	Precision	0,2% ±1 digit	
	Maximum resolution	8000 pti	16000 pti
	Input filter	0...20,0 sec + display hysteresis 0...99 scale points	
	Zero Offset	Settable by user over entire scale range	
	Application	Indicator of physical quantities -1999...+9999 (with or without decimal point)	
Thermocouples	Types	J, K, T, E, N, S, R, B, LGost, U, G, D, C, custom, with scales in °C or °F (IEC 584)	
	Cold junction compensation	Internal, with automatic compensation	
Resistance thermometer	Types	Pt100 DIN43710 (3-wires), Pt100 Japan, custom	
Thermistors	Types	PTC, NTC (1K/25°C), custom	
Linear	Types	0...20mA, 4...20mA, 0...60mV, 0...1V, 0...5V, 0...10V, possible linearization on 32 segments	
	Potentiometer	-	(R77 version) Input from potentiometer (min 100Ω) powered by instrument 1,2Vdc
	Pressure probe Load cells	-	
Alternating sinusoidal (current transformer)	Types	-	
	Ranges	-	
	Application	-	
	Power supply for transmitter	18Vdc ±10% non-stabilized, 50mA 1,2Vdc for potentiometer >100Ω	24Vdc ±10% non-stabilized, 50mA 15Vdc for transmitter; 50mA 1,2Vdc for potentiometer >100Ω
	Power supply	11...27Vdc, 18...27Vac ±10% 50/60Hz, not isolated from sensor	11...27Vac/dc, 100...240Vac/dc; ±10% 50/60Hz
	Faceplate protection level	IP65	
	Certifications	-	UL

ALARM UNITS



	40T 72 Alarm Unit	40T 48/ 40T 96 Alarm Unit	40A 48 / 40A 96 Alternating current and voltage alarm unit
Front panel dimensions	72 x 36mm	48 x 48mm (1/16 DIN) / 96 x 48mm (1/8 DIN)	
Inputs	1		
Number of analog inputs	1		
Sampling time	120 - 60 - 30 - 15msec		120msec
Precision	0,2% ±1 digit		0,2%f.s. ±1 digit (for 2/20Vac, 20/50mAac, 1Aac) 0,5% f.s. ±1 digit (per 200Vac, 500Vac, 5Aac)
Maximum resolution	8000 pti	16000 pti	8000 pti
Input filter	0...20,0 sec + display hysteresis 0...9,9 scale points		
Zero Offset	Settable by user over entire scale range		
Application	Indicator of physical quantities -1999...+9999 (with or without decimal point)		
Thermocouples	Types	J, K, T, E, N, S, R, B, L, Gost, U, G, D, C, custom with scales in °C o °F (IEC 584)	-
Cold junction compensation	Internal, with automatic compensation		-
Resistance thermometer	Types	Pt100 DIN43710 (3-wires), Pt100 Japan, custom	-
Thermistors	Types	PTC, NTC (1K/25°C), custom	-
Linear	Types	0...20mA, 4...20mA, 0...60mV, 0...1V, 0...5V, 0...10V Possible linearization on 32 segments	-
Potentiometer	-	((R77 version) input from potentiometer(min 100Ω) powered by instrument 1,2Vdc possible linearization on 32 segments	-
Pressure probe Load cells	-	-	-
Alternating sinusoidal (current transformer)	Types	-	Direct non-isolated input or via transformer in voltage or AC
Ranges	-	-	0...2/0...20/0...200/0...500Vac 0...20/0...50/0...200mAac, 0...1/0...5Aac
Application	-	-	Voltmeter, Ammeter
Digital communication	-	RS485, 1200...19200 baud MODBUS RTU, CENCAL GEFAN	-
Digital input	Type	Optoisolated passive PNP isolated 1500V	Optoisolated passive PNP Isolated 1500V
Application	Tare zero, reset alarm latches, Hold, Flash		Tare zero, reset alarm latches, Hold, Flash
Outputs	max 3	max 4	max 3
Relay	NA	max 5A, 250V resistive load cosφ = 1	max 5A, 250V resistive load cosφ = 1
Application	Alarm units, alarms, on/off control		Alarm units, alarms
Logic	Type	With 18Vac/dc power supply Rout 560Ω (6V/20mA)	24V (10V min / 20mA max)
Application	Interception, alarm, On/Off Control		Alarm units, alarms
Triac	Type	24...240Vac ± 10% 2A max	24...240Vac ± 10% 3A max (for mod.40A96)
Application	Alarm units, alarms, on/off control		Alarm units, alarms
Analog	Type	4...20mA (R max 60Ω) res. 12bit, not isolated	0...10V, 4...20mA (Rmax = 500Ω) res. 12bit not isolated
Application	Retransmission of variable		Retransmission of variable
Power supply sensor or transmitter	18Vdc; 50mA	24Vdc ±10% non-stabilized, 50mA 15Vdc for transmitter, 50mA 1,2V for potentiometer	-
Power supply	11...27Vdc, 18...27Vac; ±10% 50/60Hz not isolated from sensor	11...27Vac/dc, 100...240Vac/dc; ±10% 50/60Hz	11...27Vac/dc, 100...240Vac/dc; ±10% 50/60Hz
Faceplate protection level	IP65		
Certifications	-	UL	UL (40A96)

TIMERS, COUNTERS



40B 48 Alternating current and voltage alarm unit		40B 96 Pressure, force, position alarm unit	
48 x 48mm (1/16 DIN)		96 x 48mm (1/8 DIN)	
1			
120 - 60 - 30 - 15msec			
0,2% ±1 digit			
8000 pti		16000 pti	
0...20,0 sec + display hysteresis 0...9,9 scale points			
Settable by user over entire scale range			
Indicator of physical quantities -1999...+9999 (with or without decimal point)		Indicator of physical quantities -1999...+9999 (resolut. 1 digit) -19990...+99990 (resolut. 10 digit) Configurable decimal point position	
-			
-			
-			
-			
-			
-			
Input from potentiometer (min 100Ω) powered by instrument 1,2Vdc possible linearization on 32 segments			
Aurorange sensitivity 1,5...3,3mV/V possible linearization on 32 segments			
-			
-			
-			
RS485, 1200...19200 baud MODBUS RTU			
Optoisolated passive PNP, Isolated 1500V			
Tare zero, reset alarm latches, Hold, Flash			
max 3		max 4	
max 5A, 250V resistive load cosφ = 1			
Alarm units, alarms, on/off control			
11V Rout 220Ω (6V/20mA)		24Vdc (10V min /20mA max)	
Alarm units, alarms, on/off control			
-		24...240Vac ± 10% 1A max	
Alarm units, alarms			
4...20mA (R max 150Ω) res. 12bit, non isolated		0.10V, 4...20mA (Rmax 500Ω) res. 12bit, non isolated	
Retransmission of variable			
1,2Vdc for potentiometer, 5-10Vdc/120mA; 15-24Vdc/50mA			
11...27Vac/dc, 100...240Vac/dc; ±10% 50/60Hz			
IP65			
-		UL	

	55 Multiscale timer with digital setting	550 Timer Counter	556 Timer Counter/ Frequency meter
Front panel dimensions	48 x 48mm (1/16 DIN)		
Display	Red LED on during timing interval	3-digit display with 14mm green LEDs	2 x 4 digit display with 10/7mm green LEDs
Operating principle	Digital logic	Microprocessor	
Inputs	-	2 control inputs NPN configurable	3 control inputs NPN configurable
Full scale Times/counts	9.99 sec 99.9 sec 999 sec 9.59 min 9.59 h	Timer: 9.99 sec 99.9 sec 999 sec 9.59 min 9.59 h Counter max 3 digit (999) with multiplication :1, :2, :10, :100, x2	Timer 9.999 sec 99.99 sec 999.9 sec 9999 sec 99.59 min 9.59 h Counter max 4 digit (999) with multiplication :1, :2, :10, :100, x2
Outputs	2 relays 5A/250Vac cosφ = 1		1 relays 5A/250Vac cosφ = 1
Max frequency Of control inputs	-	100Hz	Selectable maximum frequency ((with duty cycle 50%) 100Hz, 1KHz, 5KHz selectable
Trip delay	5 msec	max 6 msec	
Digital Communication	-		
Sensor or Transmitter Power supply	-		12Vdc; 30mA
Power supply	24/48Vac ±10% 50/60Hz 6VA max 110/220Vac- 120/240Vac ±10% 24Vdc ±10% 50/60Hz 3VA max	110/220Vac ±10% 120/240Vac ±10% 24/48Vac ±10% 24Vdc ±10% 50/60Hz 5VA max	
Notes	Setting the scale with preselector	• Quartz time base • 12 function modes and 9 output functions configurable from keyboard	• Quartz time base • 6 time scales, 4 types of timer/counter, 4 frequency meter function modes • 6 output functions configurable from keyboard • Count sequence is displayed directly in engineering units • Counts retained in absence of power supply
Faceplate protection level	IP20 (IP65 with protective cover)	IP54 (IP65 with protective cover)	

ALARM UNITS



		40TB Temperature and pressure alarm unit	40F 96 Frequency Indicator
Front panel dimensions		96 x 96mm (1/4 DIN)	96 x 48mm (1/8 DIN)
Inputs	Number of analog inputs	2	1 mech. contact, logic or alternating voltage drive
	Sampling time	120 - 60 - 30 - 15msec	Configurable frequency: 100KHz max.
	Precision	0,2% ±1 digit	0,1% in autorange mode ±1 digit with fixed f.s.
	Maximum resolution	16000 pti	-
	Input filter	0...20,0 sec + + display hysteresis 0...9,9 scale points	Fixed 100Hz, may be cut out
	Zero Offset	Settable by user over entire scale range	
	Application	Indicator of frequencies -9999...+9999 (settable decimal point)	Indicator of frequencies 0...+9999 (automatic or settable decimal point)
Thermocouples	Types	J, K, T, E, N, S, R, B, LGost, U, G, D, C, Custom with scale in °C o °F (IEC 584)	-
	Cold junction compensation	Internal, with automatic compensation	-
Resistance thermometer	Types	Pt100 DIN43710 (3-wires), Pt100 Japan	-
Thermistors	Types	PTC, NTC (1K/25°C)	-
Linear	Types	0...20mA, 4...20mA, 0...60mV, 0...1V, 0...5V, 0...10V Ri > 500Ω for voltage signals ≤ 1V Ri > 20KΩ for voltage signals > 1V Ri = 50Ω for current signals Possible linearization on 32 segments	-
	Potentiometer	Input from potentiometer (min 100Ω) powered by instrument 1,2Vdc	-
	Pressure probe Load cells	Autorange sensitivity 1,5...3,3mV/V	-
Frequency	Type	-	Input from inductive or capacitive proximity encoder NAMUR 2 or 3-wires limit switch Input in alternating voltage 0,5...500V
	Type	-	Input frequency ranges ≤ 20KHz
	Display	-	Frequency meter with or without automatic scale and decimal point change, input frequency selectable in ranges: 9,999; 99,99; 999,9; 9999
	Application	-	Revolution counter or frequency meter with programmable sampling time
Digital input	Type	2 inputs from voltage-free contact	Optoisolated passive PNP isolated 1500V
	Application	Tare zero, reset alarm latches, Hold, Flash	Tare zero, reset alarm latches, Hold, Flash
Outputs		max 3	
Relay	NA	max 5A, 250V resistive load cosφ = 1	
	Application	Alarm units, alarms	
Logic	Type	-	11V Rout 220Ω(6V/20mA)
	Application	-	Alarm units, alarms
Triac	Type	-	24...240V ±10% 3A max.
	Application	-	Alarm units, alarms
Analog	Type	2 outputs: 0-10V, 0/4-20mA is. 1500V, res.12 bit	4...20mA (R max 150Ω) resolution 12bit non isolated
	Application	Configurable	Retransmission of variable
	Digital communication	RS485, RS232 1200...19200 baud MODBUS RTU	-
	Sensor or transmitter power supply	1,2Vdc for potentiometer > 100Ω; 5,10Vdc max. 120A for strain gauge 15Vdc max/80mA; 24Vdc max 50mA for transm. 2 fili	24Vdc; ±10% not stabilized 50mA max 5Vdc/120mA; 12Vdc/50mA max
	Power supply	100...240Vac/dc ± 10% 20...27Vac/dc ±10% 50/60Hz	11...27Vac/dc, 100...240Vac/dc; ±10% 50/60Hz
	Faceplate protection level	IP65	
	Certifications	UL	



2400 Fast Indicator	2308 Multichannel Indicator
96 x 48mm (1/8 DIN)	
2 Main, 2 Auxiliaries	8
2 msec (ch1, ch2) 10 msec (ch3, ch4)	900 msec
0,1% f.s. ± 1 digit (0,2% f.s. for TC)	0,2% f.s. ± 1 digit for linear inputs; 0,5% f.s. ± 1 digit for TC, RTD, mVac inputs
100000 pti	4000 pti
0,0...20,00 sec input reading, 0,0...9,9 sec display	Fixed 120 msec, may be cut out
Settable by user over entire scale range	-
Indicator of pressure, forces, weight, shift, physical quantities -19999...+99999 settable decimal point	Indicator of temperature and physical quantities -999...3000 settable decimal point
J, K, R, S, T with scale in °C o °F	
Internal / external	Internal, with automatic compensation
RTD 2/3/4-wires, Pt100, scale in °C or °F	
-	
Strain-gauge: 5/10Vdc 200mA, 350 Ω Potentiometer: $\geq 100\Omega$, $R_i > 10M\Omega$ @ 2,5Vdc DcLinear: 0/4...20mA ($R_i = 50\Omega$) $\leq \pm 100mV$, $R_i > 10M\Omega$; $\pm 1V$... $\pm 10V$, $R_i > 2M\Omega$; Auxiliary input: 0...10V ($R_i \geq 2M\Omega$); 0/4...20mA ($R_i = 50\Omega$) Possible linearization on 64 segments	0...20mV, 0...50mV, 0...100mV, 0...10V ($R_i \pm 1M\Omega$); 0/4...20mA ($R_i = 5\Omega$); 100mVac, external dividers provided for signals up to 1500Vac and external shunt for 20Aac and 5Aac
$\geq 100\Omega$, $R_i > 10M\Omega$	-
Strain-gauge 350 Ω ; sensitivity 1,5...4mV/V	-
-	-
-	-
-	-
-	-
2, NPN, PNP, optoisolated, configurable function	-
Reset, Zero, Tare, Calibration, Loc/Rem, Hold, Flash	-
max 4; can be expanded up to 10 relay or logic outputs with MD82.	max 2 relay or logic; can be expanded up to 10 relay or logic outputs with MD81
5A/250V, contacts, resistive load $\cos\phi = 1$	
Alarm units, alarms	
24Vdc (20mA, max.12V)	24Vdc Rout=47 Ω (20mA, max.12V)
Alarm units, alarms	
-	
-	
Isolated 1500V, 0/4...20mA, $R_{max} = 500\Omega$, $\pm 10V$, resolution 0,03%, configurable via software	-
PV retransmission, auxiliary inputs, peak	-
Isolated RS485 / RS232 (max 115200 baud), protocol MOD BUS RTU / PROFIBUS DP	Isolated RS485 (1200-9600baud), current loop (1200baud), prot. MODBUS RTU
Isolated 1500V, 5, 10Vdc/200mA o 24Vdc, $\pm 5\%$ 100mA	10...15V, 100mA max.
11...27Vac/dc $\pm 10\%$; 100...240Vac/dc $\pm 10\%$ 50/60Hz, 10VA max., internal fuse	
IP65	IP54 (IP65 with protective cover)
UL	-

GEFRAN

GEFRAN HEADQUARTER

Via Sebina, 74
25050 PROVAGLIO D'ISEO (BS) ITALY
Ph. +39 03098881
Fax +39 0309839063

Drive & Motion Control Unit

Via Carducci, 24
21040 GERENZANO (VA) ITALY
Ph. +39 02967601
Fax +39 029682653
info.motion@gefran.com

Technical Assistance:

technohelp@gefran.com

Customer Service

motioncustomer@gefran.com
Ph. +39 02 96760500
Fax +39 02 96760278

AUTHORIZED DISTRIBUTORS

Argentina	Maroc
Austria	Mexico
Australia	Montenegro
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Kosovo	Ukraine
Lebanon	United Arab Emirates
Macedonia	Venezuela
Malaysia	



GEFRAN BENELUX N.V.

ENA 23 Zone 3, nr. 3910
Lammerdries-Zuid 14A
B-2250 OLEN
Ph. +32 (0) 14248181
Fax +32 (0) 14248180
info@gefran.be

GEFRAN DEUTSCHLAND GmbH

Philipp-Reis-Straße 9a
D-63500 Seligenstadt
Ph. +49 (0) 61828090
Fax +49 (0) 6182809222
vertrieb@gefran.de

SIEI AREG - GERMANY

Gottlieb-Daimler Strasse 17/3
D-74385 - Pleidelsheim
Ph. +49 (0) 7144 897360
Fax +49 (0) 7144 8973697
info@sieiareg.de

GEFRAN SUISSE sa

Sandackerstrasse, 30
9245 Oberbüren
Ph. +41 71 9554020
Fax +41 71 9554024
office@gefran.ch

GEFRAN FRANCE sa

4, rue Jean Desparmet - BP 8237
69355 LYON Cedex 08
Ph. +33 (0) 478770300
Fax +33 (0) 478770320
commercial@gefran.fr

GEFRAN UK Ltd

Capital House, Hadley Park East
Telford
TF1 6QJ
Tel +44 (0) 8452 604555
Fax +44 (0) 8452 604556
sales@gefran.co.uk

GEFRAN ESPAÑA

Calle Vic, números 109-111
08160 - MONTMELÓ
(BARCELONA)
Ph. +34 934982643
Fax +34 935721571
comercial.espana@gefran.es

GEFRAN-ENERTRONICA SA (PTY) LTD

North Precinct, Unit 10,
West Building, Tanzanite Boulevard,
Montague Park, Cape Town
Ph. +27 21 5525985
Fax +27 21 5525912

GEFRAN SIEI Drives Technology Co., Ltd

No. 1285, Beihe Road, Jiading
District, Shanghai, China 201807
Ph. +86 21 69169898
Fax +86 21 69169333
info@geftransiei.com.cn

GEFRAN SIEI Electric Pte. Ltd.

No. 1285, Beihe Road, Jiading
District, Shanghai, China 201807
Ph. +86 21 69169898
Fax +86 21 69169333
info@geftransiei.com.cn

GEFRAN SIEI - ASIA

Blk.30 Loyang Way
03-19 Loyang Industrial Estate
508769 Singapore
Ph. +65 6 8418300
Fax +65 6 7428300
info@geftransiei.com.sg

GEFRAN INDIA Head Office: Pune

Survey No: 182/1 KH, Bhukum, Paud road,
Taluka - Mulshi,
Pune - 411 042, MH, INDIA
Phone No.: +91-20-39394400
Fax No.: +91-20-39394401
gefran.india@gefran.in

Branch Office: Mumbai

403, Damodar Nivas,
'B' Cabin Road, Near Railway quarters,
Naupada, Thane (W) - 400 602, MH, India
Phone No.: +91-22-2533 8797
Phone/Fax No.: +91-22-2541 8797
gefran.india@gefran.in

Branch office: Ahmedabad

20-A, Second Floor, Kala Purnam Building,
Near Municipal Market, C. G. Road,
Ahmedabad - 380 019, Gujarat, India
Ph: +91-79-2640 3591
Ph/Fax: +91-79-2640 3592
gefran.india@gefran.in

GEFRAN TAIWAN

No.141, Wenzhi Rd., Zhongli City,
Taoyuan County 32054,
Taiwan (R.O.C.)
Tel +886-3-4273697
eddie.liao@geftransiei.com.sg

GEFRAN Inc.

8 Lowell Avenue
WINCHESTER - MA 01890
Toll Free 1-888-888-4474
Fax +1 (781) 7291468
info.us@gefran.com

GEFRAN BRASIL ELETROELETRÔNICA

Avenida Dr. Altino Arantes,
377 Vila Clementino
04042-032 SÃO PAULO - SP
Ph. +55 (0) 1155851133
Fax +55 (0) 1132974012
comercial@gefran.com.br

www.gefran.com